

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/011227A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 F15D1/06 F15D1/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 F15D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 11 082860 A (HIRATA JUNICHI) 26 March 1999 (1999-03-26)	1,4, 6-11,34, 36,37
A	paragraphs '0001! - '0004!, '0010!, '0012!, '0041! - '0045!, '0070!, '0091!; figures 2,8,14 -& PATENT ABSTRACTS OF JAPAN vol. 1999, no. 08, 30 June 1999 (1999-06-30) -& JP 11 082860 A 26 March 1999 (1999-03-26) abstract	12,13, 17, 21-30,40
A	----- -----	-/-

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

23 December 2004

Date of mailing of the international search report

03/01/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+31-70) 340-3016

Authorized officer

Rechenmacher, M

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/011227

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 664 928 A (ROBERTS ERNEST ROTH) 23 May 1972 (1972-05-23) column 2, lines 47-66	1-4, 34, 36 5-11, 37, 40
A	column 3, lines 59-65	12, 13, 17, 18, 25-30
	column 4, lines 51-60; figures 2, 6B -----	
X	EP 0 679 812 A (OLEINIKOV VALERY GRIGORIEVICH ; GACHECHILADZE IVAN ALEXANDROVI (RU); K) 2 November 1995 (1995-11-02) cited in the application	1, 2, 4, 38
Y	page 4, line 37 - page 6, line 11; figures 1, 2 -----	5-11, 14-32, 36, 37, 39, 40
X	WO 97/04280 A (VIDA NIKOLAUS ; KIKNADZE GENNADY IRAKLEVICH (RU); OLEINIKOV VALERY GRI) 6 February 1997 (1997-02-06) cited in the application	1, 2, 4, 6-11, 36
A	page 1, paragraph 1 ----- page 5, lines 18-22 page 15, lines 1-14	12, 13, 21-25, 28-30
X	US 5 080 367 A (LYNCH FRANCIS DES ET AL) 14 January 1992 (1992-01-14)	12, 13, 35
Y	column 5, lines 53-61 ----- column 7, lines 3-12 column 8, lines 21-26 column 9, lines 29, 30; figures 2, 4, 5, 8, 9, 24	14-32, 36, 37, 39, 40
P, X	WO 2004/048871 A (VIDA NIKOLAUS) 10 June 2004 (2004-06-10) ----- page 1, lines 6-15 page 6, lines 17-26 page 8, lines 17-33 page 9, lines 14-17; figures 3-5	1-13, 17, 18, 21-30, 36, 37, 39, 40

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/011227

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	DE 198 40 303 A (BRANDHORST INGO) 9 March 2000 (2000-03-09) abstract column 2, lines 12-22; claims 1,2; figures 1,2 -----	33 12, 13, 17, 21-24, 31, 32

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/011227

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
JP 11082860	A	26-03-1999	NONE			
US 3664928	A	23-05-1972	BE DE ES FR GB	760325 A1 2053544 A1 384271 A1 2073720 A5 1290050 A		17-05-1971 16-06-1971 16-01-1973 01-10-1971 20-09-1972
EP 0679812	A	02-11-1995	RU DE DE EP AU ES WO SG US	2020304 C1 69226711 D1 69226711 T2 0679812 A1 1974292 A 2122998 T3 9320355 A1 47069 A1 6006823 A		30-09-1994 24-09-1998 25-03-1999 02-11-1995 08-11-1993 01-01-1999 14-10-1993 20-03-1998 28-12-1999
WO 9704280	A	06-02-1997	AU CN DE DE WO EP ES US	6701596 A 1196790 A ,C 69620185 D1 69620185 T2 9704280 A1 0839309 A1 2172673 T3 6119987 A		18-02-1997 21-10-1998 02-05-2002 07-11-2002 06-02-1997 06-05-1998 01-10-2002 19-09-2000
US 5080367	A	14-01-1992	US AU AU CA CA GB US	4936587 A 475525 B2 4790472 A 967184 A1 967186 A2 1381897 A 4729861 A		26-06-1990 26-08-1976 26-04-1974 06-05-1975 06-05-1975 29-01-1975 08-03-1988
WO 2004048871	A	10-06-2004	WO	2004048871 A2		10-06-2004
DE 19840303	A	09-03-2000	DE	19840303 A1		09-03-2000